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INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P045188PCT	FOR FURTHER ACTION		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/NL 03/00541	International filing date (day/month/year) 24.07.2003	Priority date (day/month/year) 24.07.2002	
International Patent Classification (IPC) or both national classification and IPC E02B3/14			
Applicant HBG CIVIEL B.V.			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 9 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 1 sheets.

3. This report contains indications relating to the following items:

- I Basis of the opinion
- II Priority
- III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV Lack of unity of invention
- V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI Certain documents cited
- VII Certain defects in the international application
- VIII Certain observations on the international application

Date of submission of the demand 17.02.2004	Date of completion of this report 24.01.2005
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Van Bost, S Telephone No. +31 70 340-4618



INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

International application No.

PCT/NL 03/00541

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-4 as originally filed

Claims, Numbers

2-23 as originally filed
1 received on 07.12.2004 with letter of 07.12.2004

Drawings, Sheets

1/4-4/4 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
 the language of publication of the international application (under Rule 48.3(b)).
 the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

contained in the international application in written form.
 filed together with the international application in computer readable form.
 furnished subsequently to this Authority in written form.
 furnished subsequently to this Authority in computer readable form.
 The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
 The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

the description, pages:
 the claims, Nos.:
 the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/NL 03/00541

5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).
(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees, the applicant has:

restricted the claims.
 paid additional fees.
 paid additional fees under protest.
 neither restricted nor paid additional fees.

2. This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

complied with.
 not complied with for the following reasons:
see separate sheet

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

all parts.
 the parts relating to claims Nos. .

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	15,18,20-23
	No: Claims	1-14,16,17,19
Inventive step (IS)	Yes: Claims	22,23
	No: Claims	1-21
Industrial applicability (IA)	Yes: Claims	1-23
	No: Claims	

2. Citations and explanations

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/NL 03/00541

see separate sheet

Re Item IV

Lack of unity of invention

1. This Authority considers that there are three groups of inventions covered by the claims indicated as follows:

- I: Claims 1-17,19,20 directed to a protective element characterised by its form and in situ-method of making same;
- II: Claims 1,18,21 directed to protective element characterised by consisting of residue material and method of making same;
- III: Claims 22,23 directed to prefabrication-method for a protective element characterised by the use of a split-shuttering and split-shuttering used in said method.

The reasons for which the inventions are not so linked as to form a single general inventive concept, as required by Rule 13.1 PCT, are as follows:

- 2.1 The subject-matter of claim 1 is known from D1 (US-A-3 614 866) and furthermore from D8 (US-A-3 759 043), see par. 2.2 below (Re Item V). Furthermore, the features of claims 2-14 are known from D1 (cf. col.2/l.43-col.3/l.20, fig.1-3).
- 2.2 D1 does not disclose the subject-matter of claim 15. Therefore, the features of claim 15 are considered to be the Special Technical Features (STF) of the first group of inventions, solving the problem of improving the water-breaking and wave-retarding properties.
- 2.3 D1 furthermore does not disclose the subject-matter of claim 18. Thus, the features of claim 18 are considered to be the STF of the second group of inventions, solving the problem of improving the strength of the element and simplify the method of making an element with this material.
- 2.4 D1 does not disclose the subject-matter of claim 22 either. The features of claim 22 are therefore considered to be the STF of the third group of inventions, solving the problem of easily removing the shuttering from the freshly made element and reusing the shuttering for the production of another element.

2.5 Obviously, the STF's of the three groups of inventions are not the same, nor are they corresponding, as they solve different, unrelated problems. Consequently, a technical relationship between the inventions involving such STF's (Rule 13.2 PCT) is not present and therefore the application does not fulfill the requirements of unity of invention as defined in Rule 13.1 PCT.

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:

D1: US-A-3 614 866;
D2: US-A-5 879 105;
D3: GB-A-970 199;
D4: NL-C-1016098;
D5: US-A-3 582 034;
D6: DE-A-198 15 205;
D7: Nationaal Dubo centrum: "Noviteiten op de vakbeurs van de Nationale Dubo Dag 2002, C-FIX BV", 01.06.2002 (retrieved from internet:
<http://www.dubo-centrum.nl/nieuws/nieuwsitem.php?recID=260>).
D8: US-A-3 759 043.

2.1 The present application, concerning group I (claims 1-17,19 and 20), does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

2.2 The features of claim 1 are known from document D1 (cf. col.2/l.43-col.3/l.20, fig.1-3); in particular reference is made to the plate-shaped base (3) with a square cross-section, two projection (3a) and four auxiliary projections (2a, 4a) having a pointed shape defined by sloping surfaces (see the respective corners of the projections).

Document D8 moreover discloses (cf. fig.22) all the features of claim 1:
a protective element for a breakwater or wave-retarding construction, comprising:

- a plate-shaped base which has two parallel surfaces facing away from each other (see the central body);
- said base having a periphery defined by a rectangular polygon (see the central body with a square cross-section);
- an auxiliary projection being provided at each corner of the base (see the four projections at the side of the central body);
- said auxiliary projections having a pointed shape defined by sloping surfaces (the pointed shape being formed by a corner of said auxiliary projections);
- as well as a projection at, and extending from, the middle of a respective surface of the base (see upper and lower projections).

2.3 Furthermore, D1 discloses the subject-matter of claims 2-14, 16, 17 and 19, thereby depriving these claims of novelty.

2.4 The wave energy dispersion module of document D2 discloses (see fig.2,3) the features of dependent claim 15. This claim does not meet the requirements of the PCT in respect of inventive step, Article 33(3) PCT.

2.5 The in-situ method of claim 20 seems generally known to the person skilled in the art as far as it concerns the production of concrete structures in-situ in general, and seems therefore to not meet the requirements of the PCT in respect of inventive step.

3.1 The present application, concerning group II (claims 1,18 and 21), does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new, see paragraph 3.2 above.

3.2 Document D1 does not disclose the features of claim 18. The subject-matter of claim 18 therefore differs from this known protective element in that the material from which the element is made comprises at least a residue material from oil refining, sand, rock-like granulate or gravel.

3.3 The problem to be solved by the present invention may therefore be regarded as

improving the strength of the element and simplify the method of making an element with this material.

3.4 Document D7 discloses (see part concerning C-FIX BV) the idea of using the material C-FIX, which contains the material mentioned in par. 5.2 above, in protective elements for a breakwater or wave-retarding construction. Moreover, document D6 discloses (see claim 1) the use of mineral residue material (cf. in particular "Schlamm aus Öltrennanlagen"), for the construction of covering elements. Furthermore, the use of an oil-product in constructing protective elements for a breakwater or wave-retarding construction is generally known from document D3 (see p.1/l.45-p.2/l.3, p.2/l.79-87).

These features have thus already been employed for the same purpose in a similar protective element. It would be obvious to the person skilled in the art, namely when the same result is to be achieved, to apply these features with corresponding effect to a protective element according to document D1, thereby arriving at a protective element according to claim 18.

3.5 Therefore, dependent claim 18 does not meet the requirements of the PCT in respect of inventive step.

3.6 The idea underlying the method of claim 21, i.e. glueing separate oil-containing elements together by heating locally the attachment locations, is generally known to the person skilled in the art, see for example document D4 and the corresponding passages cited in the search report. Therefore, the method does not meet the requirements of the PCT in respect of inventive step.

4.1 Concerning group III (claims 22 and 23), the document D5 is regarded as being the closest prior art to the subject-matter of device claim 23, and shows (cf. col.2/l.52-col.3/l.2, fig.4) a shuttering for the production of a breakwater concrete block, which consists of a bottom box (12) split in a vertical plane into two parts, and a top box, connected by connecting elements to the bottom box, wherein the bottom box is open at top and bottom and can be placed with the bottom over an elevation.

4.2 The subject-matter of claim 23 differs from this known shuttering in that the top box is also split in a vertical plane into two parts and that lifting means are

incorporated in the connecting elements so as to raise the top box with respect to the bottom box and wherein the bottom box is supported by support means, for example mobile legs, which are provided with lifting means so as to lower the bottom together with the top box.

The subject-matter of claim 23 is therefore new.

4.3 The problem to be solved by the present invention may be regarded as improving such a shuttering in order to improve and fasten the production of the elements.

The solution is shown by the features in par. 6.2 above. These features are not known from the prior art. Therefore, solution to this problem proposed in claim 23 of the present application is considered as involving an inventive step (Article 33(3) PCT).

4.4 A similar reasoning is applied for the corresponding features of claim 22, thereby also being new and involving an inventive step.

5. It is noted that figure 1 is not covered by claim 1, Article 6 PCT. Therefore, this figure should have been deleted.

Claims

1. Protective element for a breakwater or wave-retarding construction,
comprising:

5 - a plate-shaped base (1) which has two parallel surfaces (8, 9) facing away from
each other,

- said base (1) having a periphery defined by a regular polygon,

- an auxiliary projection (4) being provided at each corner of the base (1),

- said auxiliary projections (4) having a pointed shape defined by sloping surfaces
10 (5, 6),

- as well as a projection (2, 3) at, and extending from, the middle of a respective
surface (8, 9) of the base (1).

EPO - DG 1

07.12.2004

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